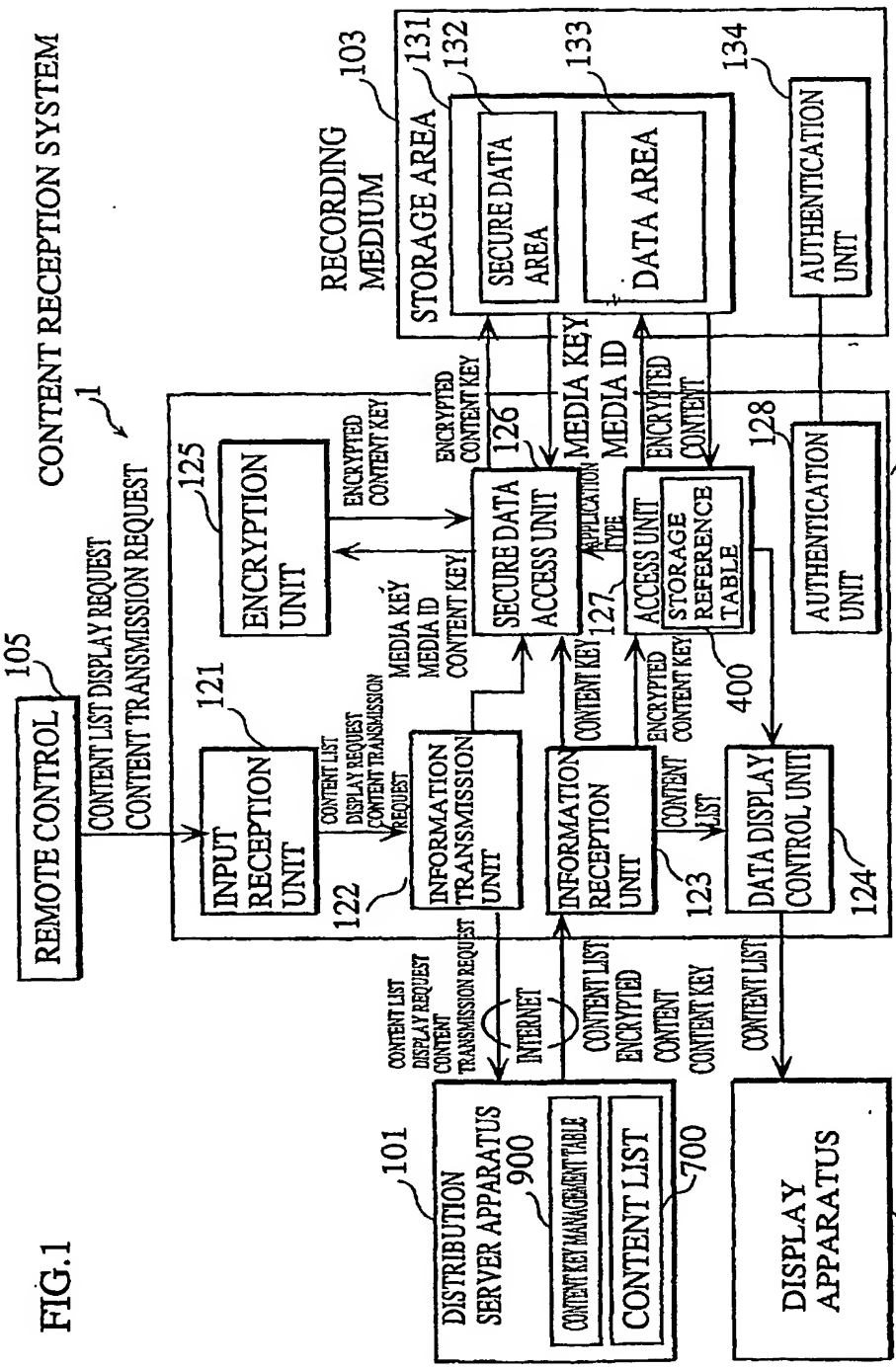

CONTENT RECEPTION SYSTEM
1
REMOTE CONTROL
105
CONTENT LIST DISPLAY REQUEST
CONTENT TRANSMISSION REQUEST
INPUT RECEPTION UNIT
121
CONTENT LIST DISPLAY REQUEST CONTENT TRANSMISSION REQUEST
122
INFORMATION TRANSMISSION UNIT
ENCRYPTION UNIT
125
ENCRYPTED CONTENT KEY
MEDIA KEY
MEDIA ID
CONTENT KEY
SECURE DATA ACCESS UNIT
126
APPLICATION TYPE
127
INFORMATION RECEPTION UNIT
CONTENT LIST
123
DATA DISPLAY CONTROL UNIT
124
ACCESS UNIT
STORAGE REFERENCE TABLE
400
ENCRYPTED CONTENT
128
AUTHENTICATION UNIT
102
CONTENT RECEPTION TERMINAL APARATUS
RECORDING MEDIUM
103
STORAGE AREA
131
SECURE DATA AREA
132
DATA AREA
133
AUTHENTICATION UNIT
134
CONTENT LIST DISPLAY REQUEST CONTENT TRANSMISSION REQUEST
INTERNET
CONTENT LIST ENCRYPTED CONTENT CONTENT KEY
CONTENT LIST
DISTRIBUTION SERVER APPARATUS
900
CONTENT KEY MANAGEMENT TABLE
CONTENT LIST
700
101
DISPLAY APPARATUS
104

FIG.1

FIG.2

CONTENT LIST 700

APPLICATION NAME	CONTENT NAME	CONTENT NUMBER
MUSIC (0001)	Still You're The One That's The Way It Is I Want It That Way	001 002 003
MOVIE (0010)	Matrix American Beauty	011 012
⋮	⋮	⋮

FIG.3

CONTENT KEY MANAGEMENT TABLE

900

CONTENT NUMBER	ENCRYPTED CONTENT	CONTENT KEY
001	ENCRYPTED CONTENT1	10011 · · · · ·
002	ENCRYPTED CONTENT2	00011 · · · · ·
003	ENCRYPTED CONTENT3	01001 · · · · ·
011	ENCRYPTED CONTENT4	10100 · · · · ·
012	ENCRYPTED CONTENT5	11000 · · · · ·
⋮	⋮	⋮

FIG.4

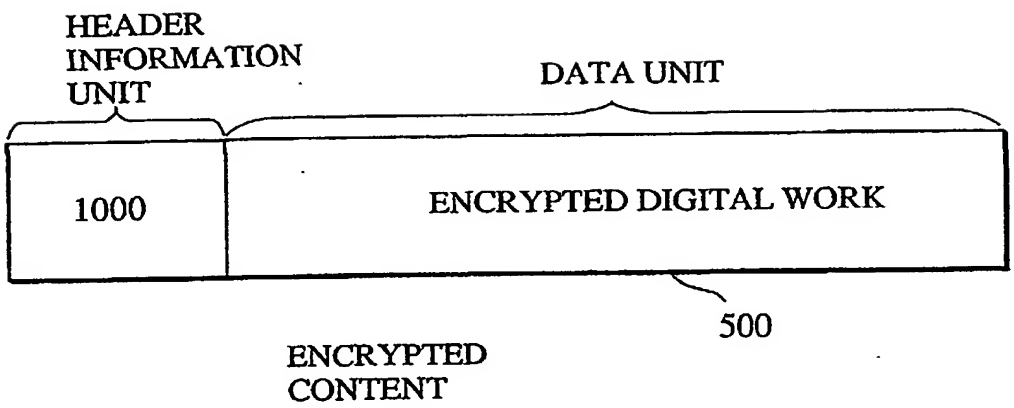

HEADER INFORMATION UNIT
DATA UNIT
1000
ENCRYPTED DIGITAL WORK
500
ENCRYPTED CONTENT

FIG.5

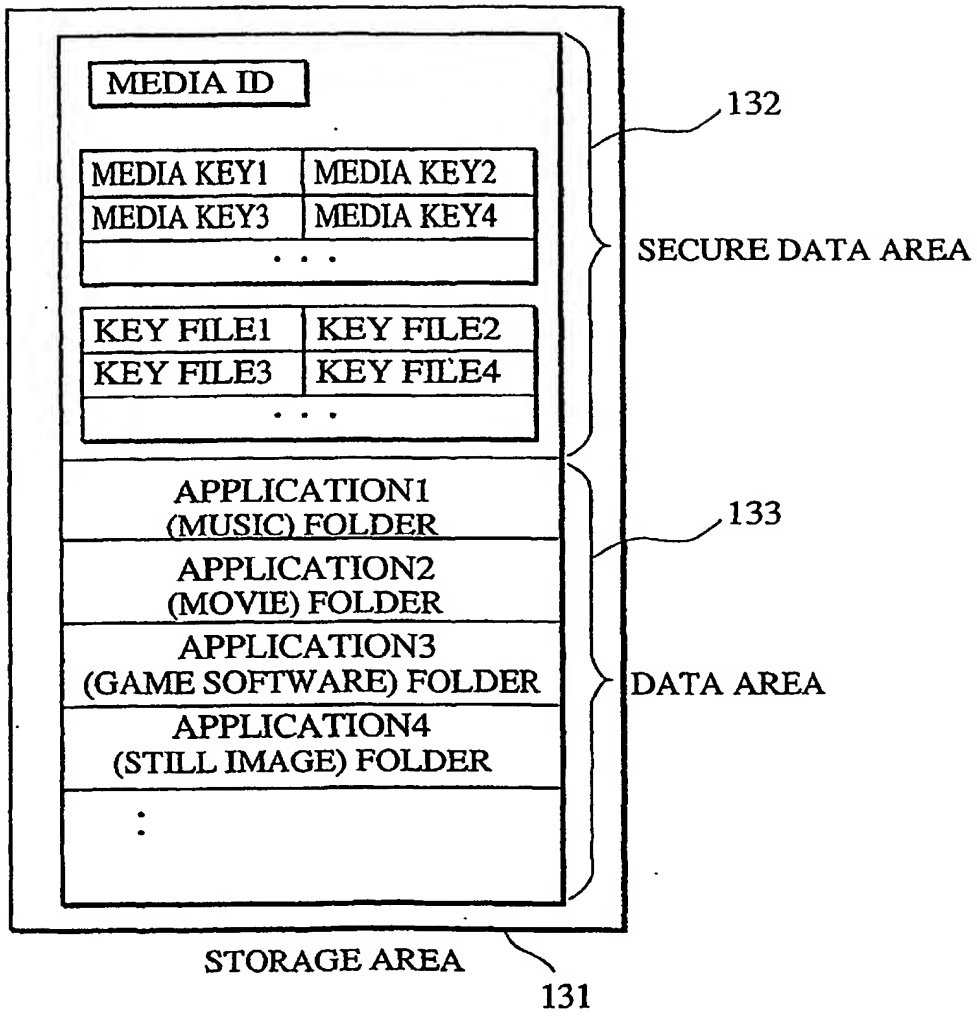

MEDIA ID
MEDIA KEY1
MEDIA KEY2
MEDIA KEY3
MEDIA KEY4
KEY FILE1
KEY FILE2
KEY FILE3
KEY FILE4
132
SECURE DATA AREA
APPLICATION1 (MUSIC) FOLDER
APPLICATION2 (MOVIE) FOLDER
APPLICATION3 (GAME SOFTWARE) FOLDER
APPLICATION4 (STILL IMAGE) FOLDER
133
DATA AREA
STORAGE AREA
131

FIG.6

STORAGE REFERENCE TABLE 400

HEADER INFORMATION	STORAGE FOLDER NAME
0001	¥¥APPLICATION1¥
0010	¥¥APPLICATION2¥
0011	¥¥APPLICATION3¥
0100	¥¥APPLICATION4¥
:	:

FIG.7

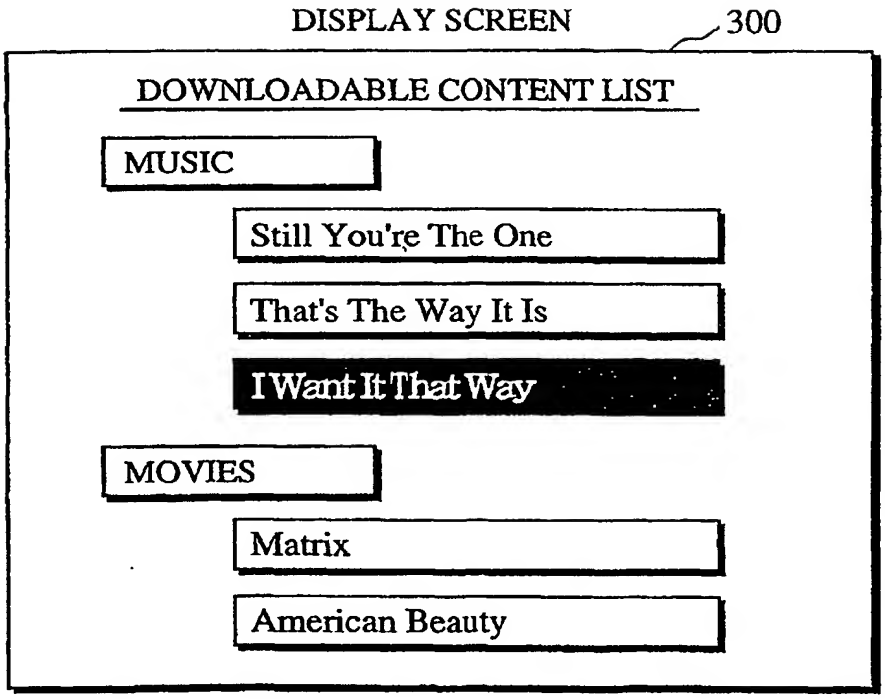

DISPLAY SCREEN
300
DOWNLOADABLE CONTENT LIST
MUSIC
Still You're The One
That's The Way It Is
I Want It That Way
MOVIES
Matrix
American Beauty

FIG.8

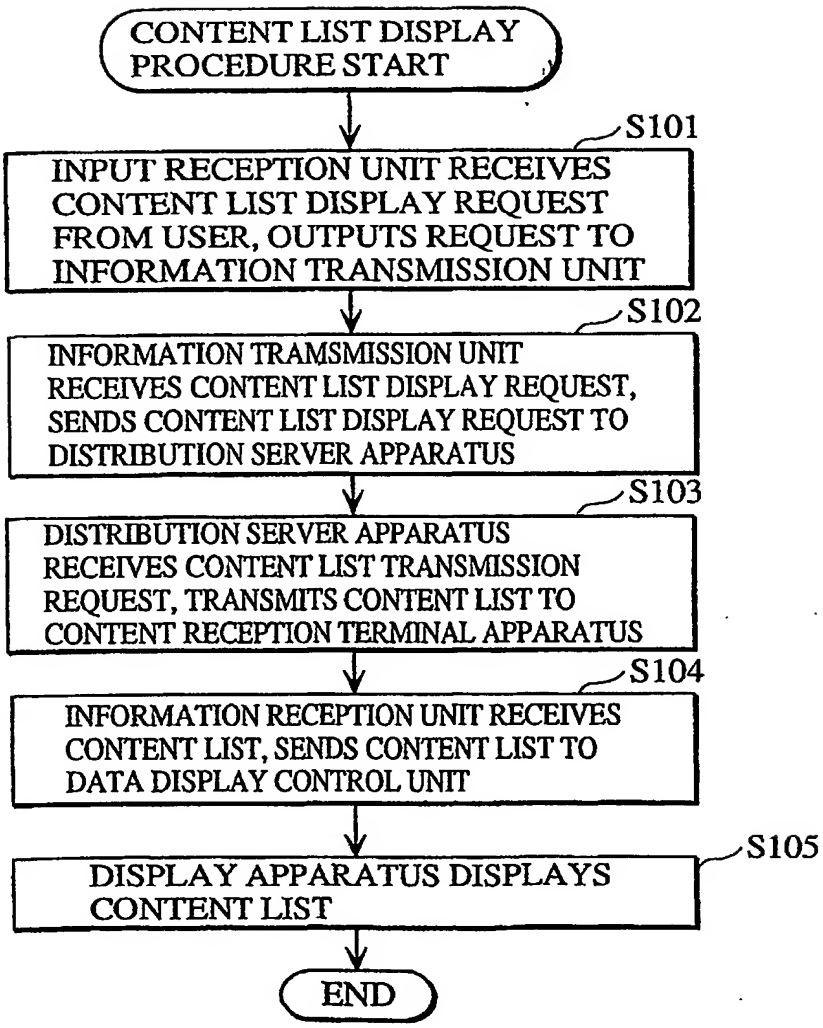

CONTENT LIST DISPLAY PROCEDURE START
S101
INPUT RECEPTION UNIT RECEIVES CONTENT LIST DISPLAY REQUEST FROM USER, OUTPUTS REQUEST TO INFORMATION TRANSMISSION UNIT
S102
INFORMATION TRAMSMISSION UNIT RECEIVES CONTENT LIST DISPLAY REQUEST, SENDS CONTENT LIST DISPLAY REQUEST TO DISTRIBUTION SERVER APPARATUS
S103
DISTRIBUTION SERVER APPARATUS RECEIVES CONTENT LIST TRANSMISSION REQUEST, TRANSMITS CONTENT LIST TO CONTENT RECEPTION TERMINAL APPARATUS
S104
INFORMATION RECEPTION UNIT RECEIVES CONTENT LIST, SENDS CONTENT LIST TO DATA DISPLAY CONTROL UNIT
S105
DISPLAY APPARATUS DISPLAYS CONTENT LIST
END

FIG.9

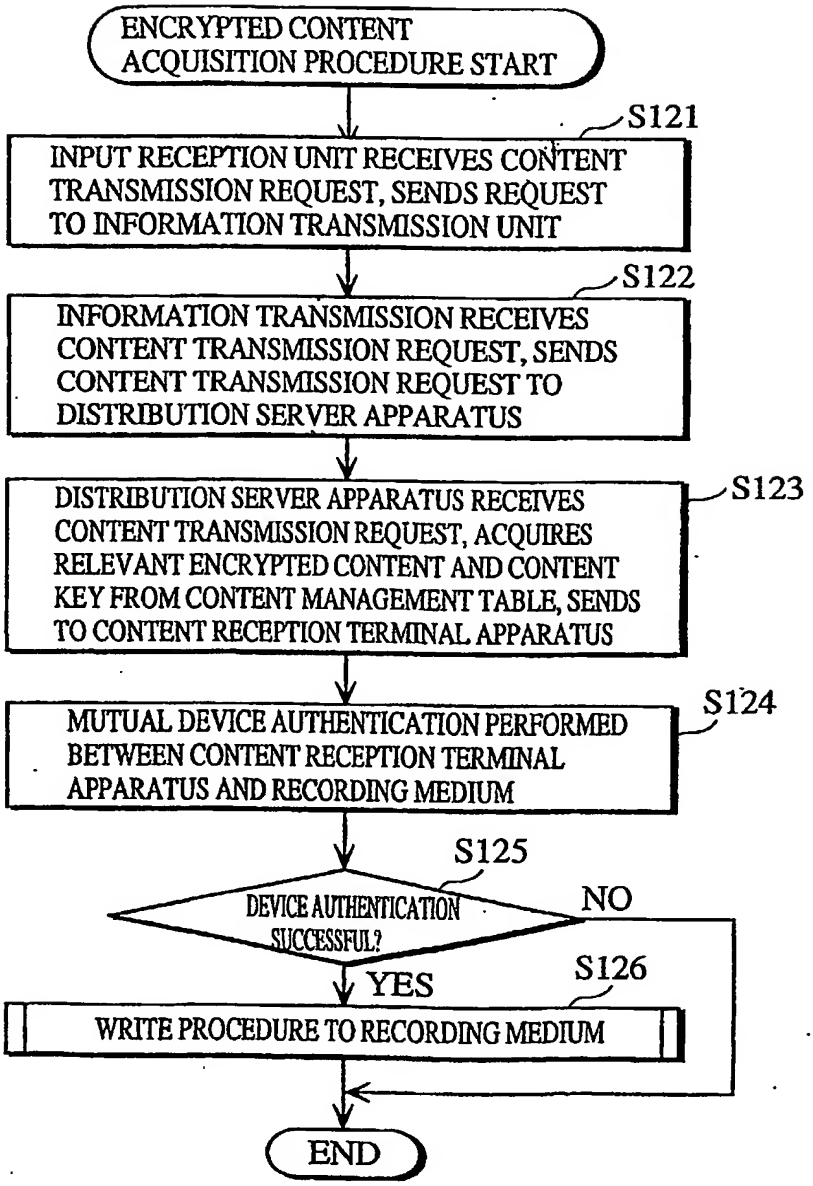

ENCRYPTED CONTENT ACQUISITION PROCEDURE START
S121
INPUT RECEPTION UNIT RECEIVES CONTENT TRANSMISSION REQUEST, SENDS REQUEST TO INFORMATION TRANSMISSION UNIT
S122
INFORMATION TRANSMISSION RECEIVES CONTENT TRANSMISSION REQUEST, SENDS CONTENT TRANSMISSION REQUEST TO DISTRIBUTION SERVER APPARATUS
S123
DISTRIBUTION SERVER APPARATUS RECEIVES CONTENT TRANSMISSION REQUEST, ACQUIRES RELEVANT ENCRYPTED CONTENT AND CONTENT KEY FROM CONTENT MANAGEMENT TABLE, SENDS TO CONTENT RECEPTION TERMINAL APPARATUS
S124
MUTUAL DEVICE AUTHENTICATION PERFORMED BETWEEN CONTENT RECEPTION TERMINAL APPARATUS AND RECORDING MEDIUM
S125
DEVICE AUTHENTICATION SUCCESSFUL?
NO
YES
S126
WRITE PROCEDURE TO RECORDING MEDIUM
END

FIG.10

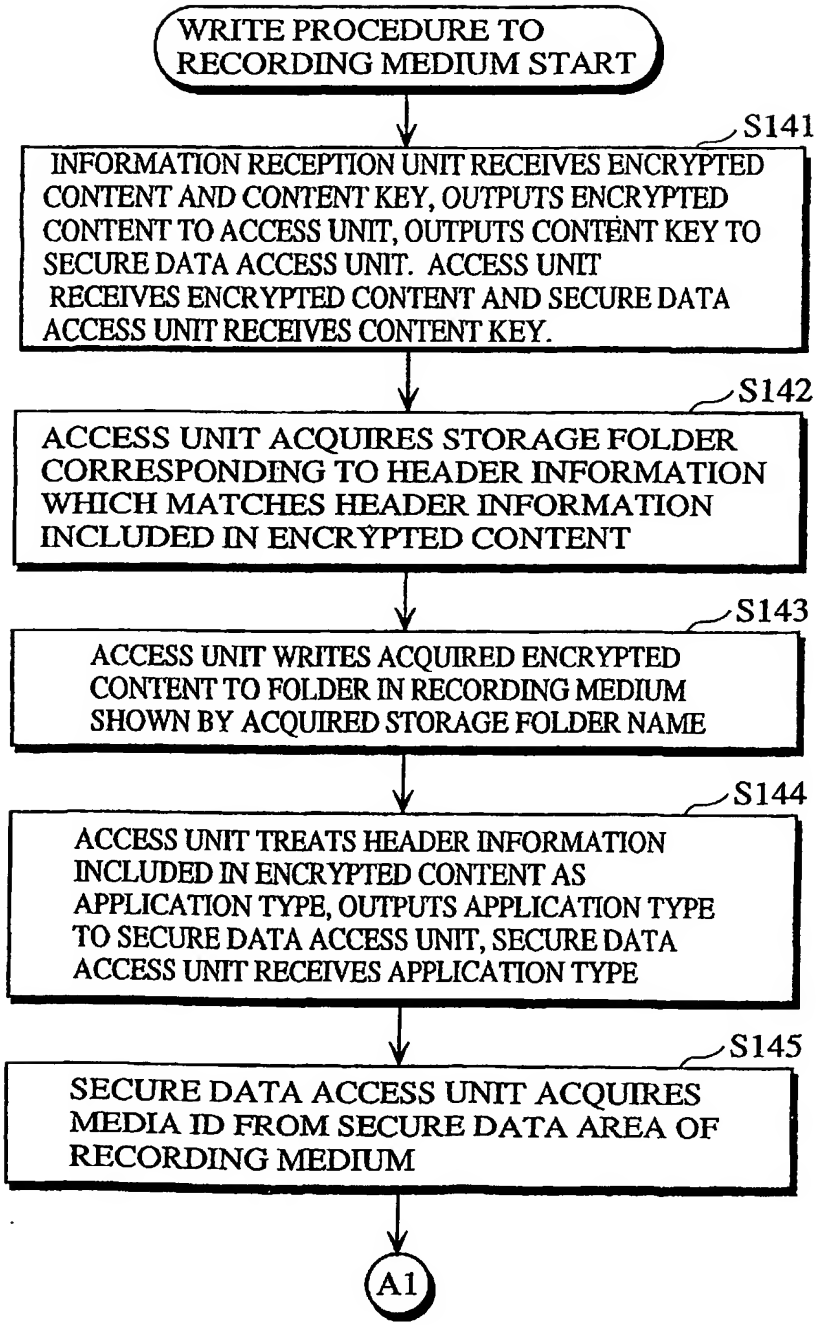
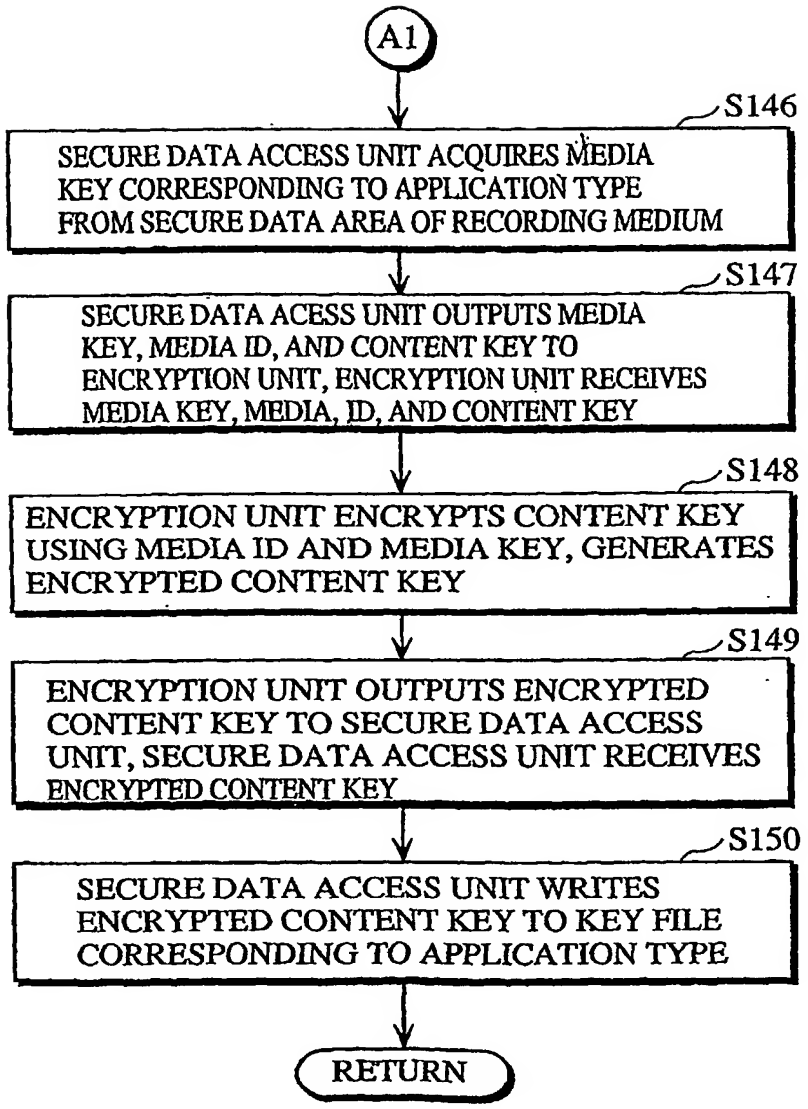

WRITE PROCEDURE TO RECORDING MEDIUM START
S141
INFORMATION RECEPTION UNIT RECEIVES ENCRYPTED CONTENT AND CONTENT KEY, OUTPUTS ENCRYPTED CONTENT TO ACCESS UNIT, OUTPUTS CONTENT KEY TO SECURE DATA ACCESS UNIT. ACCESS UNIT RECEIVES ENCRYPTED CONTENT AND SECURE DATA ACCESS UNIT RECEIVES CONTENT KEY.
S142
ACCESS UNIT ACQUIRES STORAGE FOLDER CORRESPONDING TO HEADER INFORMATION WHICH MATCHES HEADER INFORMATION INCLUDED IN ENCRYPTED CONTENT
S143
ACCESS UNIT WRITES ACQUIRED ENCRYPTED CONTENT TO FOLDER IN RECORDING MEDIUM SHOWN BY ACQUIRED STORAGE FOLDER NAME
S144
ACCESS UNIT TREATS HEADER INFORMATION INCLUDED IN ENCRYPTED CONTENT AS APPLICATION TYPE, OUTPUTS APPLICATION TYPE TO SECURE DATA ACCESS UNIT, SECURE DATA ACCESS UNIT RECEIVES APPLICATION TYPE
S145
SECURE DATA ACCESS UNIT ACQUIRES MEDIA ID FROM SECURE DATA AREA OF RECORDING MEDIUM
A1

FIG.11


A1
S146
SECURE DATA ACCESS UNIT ACQUIRES MEDIA KEY CORRESPONDING TO APPLICATION TYPE FROM SECURE DATA AREA OF RECORDING MEDIUM
S147
SECURE DATA ACESS UNIT OUTPUTS MEDIA KEY, MEDIA ID, AND CONTENT KEY TO ENCRYPTION UNIT, ENCRYPTION UNIT RECEIVES MEDIA KEY, MEDIA, ID, AND CONTENT KEY
S148
ENCRYPTION UNIT ENCRYPTS CONTENT KEY USING MEDIA ID AND MEDIA KEY, GENERATES ENCRYPTED CONTENT KEY
S149
ENCRYPTION UNIT OUTPUTS ENCRYPTED CONTENT KEY TO SECURE DATA ACCESS UNIT, SECURE DATA ACCESS UNIT RECEIVES ENCRYPTED CONTENT KEY
S150
SECURE DATA ACCESS UNIT WRITES ENCRYPTED CONTENT KEY TO KEY FILE CORRESPONDING TO APPLICATION TYPE
RETURN

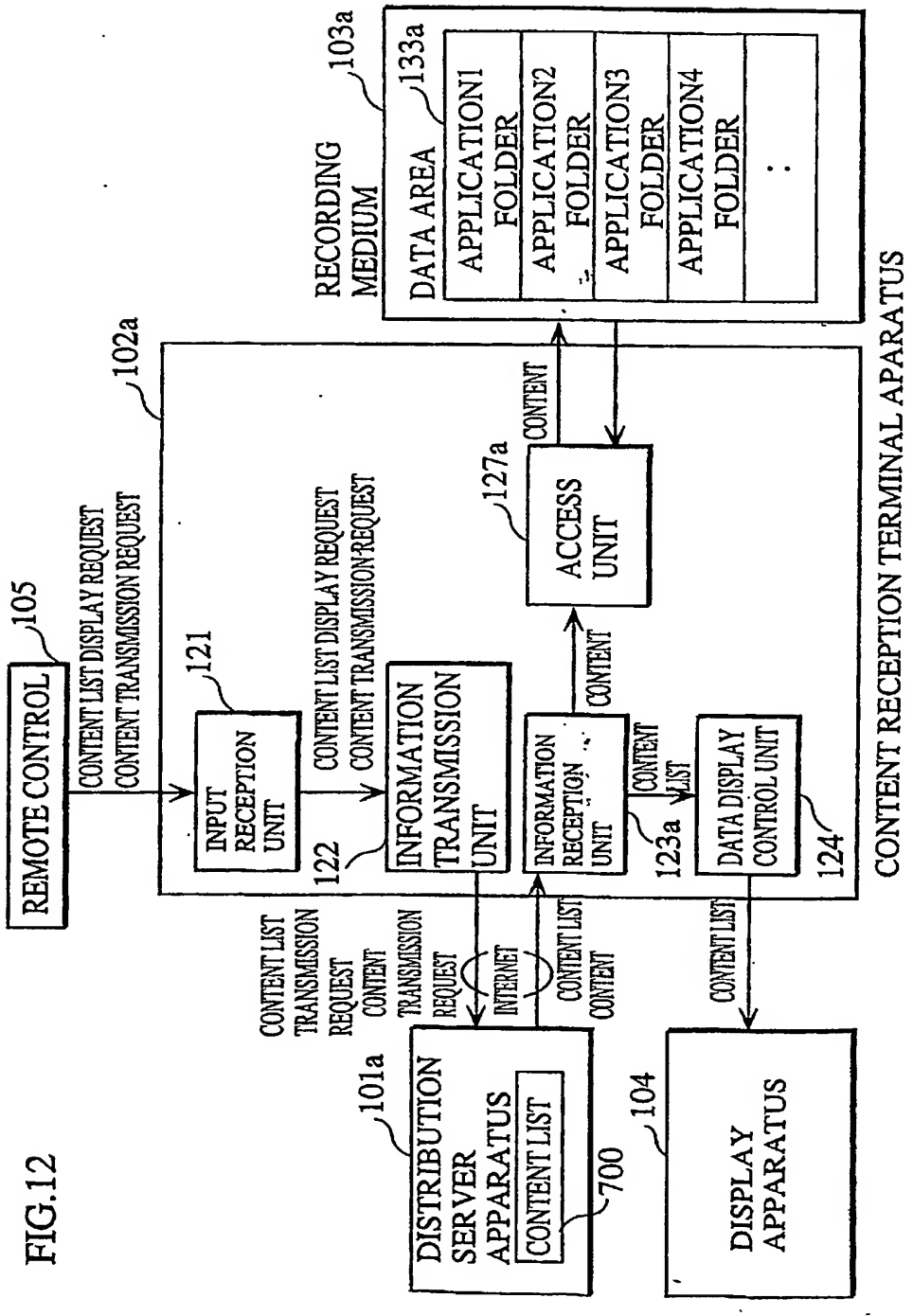
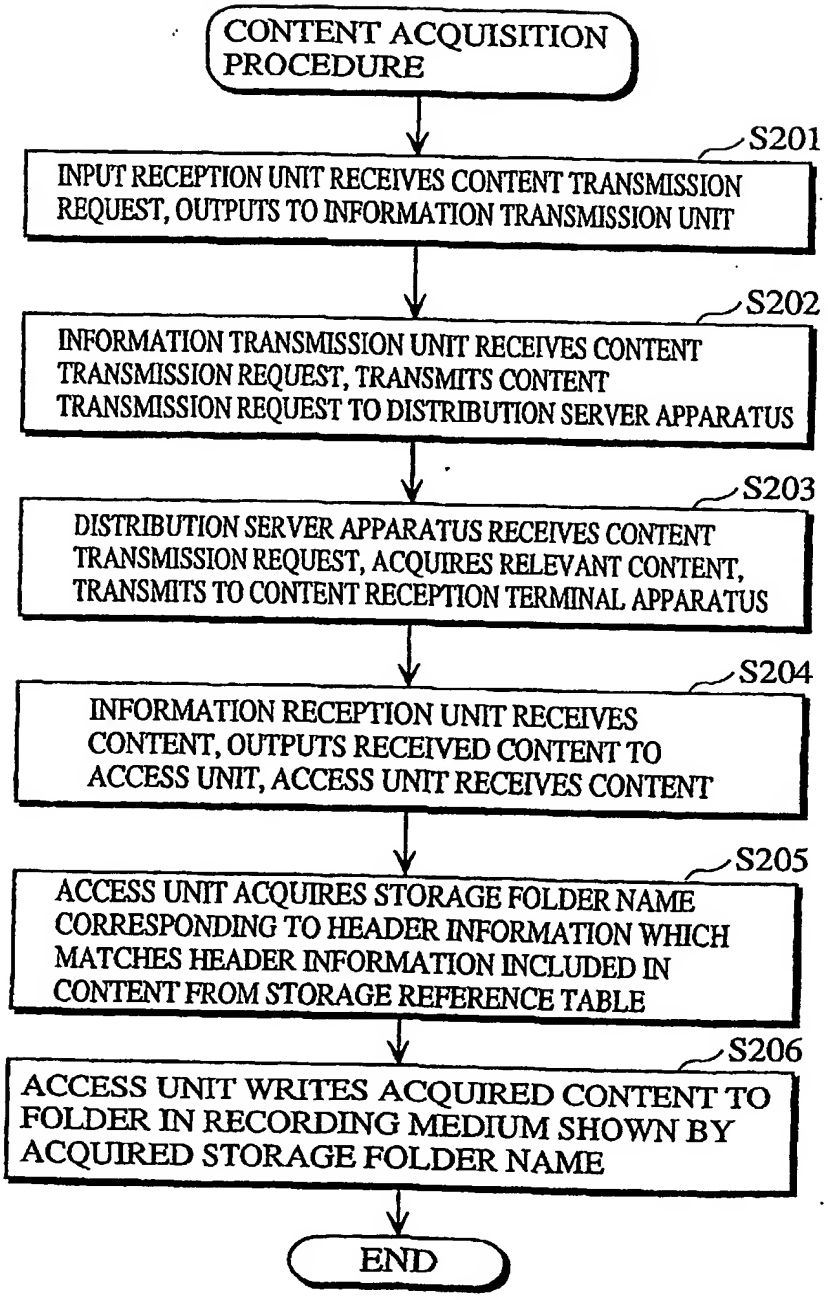

REMOTE CONTROL
105
CONTENT LIST DISPLAY REQUEST
CONTENT TRANSMISSION REQUEST
102a
121
INPUT RECEPTION UNIT
122
CONTENT LIST DISPLAY REQUEST
CONTENT TRANSMISSION REQUEST
INFORMATION TRANSMISSION UNIT
127a
ACCESS UNIT
CONTENT
RECORDING MEDIUM
103a
DATA AREA
133a
APPLICATION1 FOLDER
APPLICATION2 FOLDER
APPLICATION3 FOLDER
APPLICATION4 FOLDER
CONTENT LIST TRANSMISSION REQUEST
CONTENT TRANSMISSION REQUEST
INTERNET
CONTENT LIST
CONTENT
INFORMATION RECEPTION UNIT
123a
CONTENT LIST
DATA DISPLAY CONTROL UNIT
124
CONTENT RECEPTION TERMINAL APARATUS
101a
DISTRIBUTION SERVER APPARATUS
CONTENT LIST
700
104
DISPLAY APPARATUS

FIG.12

FIG.13


CONTENT ACQUISITION PROCEDURE
S201
INPUT RECEPTION UNIT RECEIVES CONTENT TRANSMISSION REQUEST, OUTPUTS TO INFORMATION TRANSMISSION UNIT
S202
INFORMATION TRANSMISSION UNIT RECEIVES CONTENT TRANSMISSION REQUEST, TRANSMITS CONTENT TRANSMISSION REQUEST TO DISTRIBUTION SERVER APPARATUS
S203
DISTRIBUTION SERVER APPARATUS RECEIVES CONTENT TRANSMISSION REQUEST, ACQUIRES RELEVANT CONTENT, TRANSMITS TO CONTENT RECEPTION TERMINAL APPARATUS
S204
INFORMATION RECEPTION UNIT RECEIVES CONTENT, OUTPUTS RECEIVED CONTENT TO ACCESS UNIT, ACCESS UNIT RECEIVES CONTENT
S205
ACCESS UNIT ACQUIRES STORAGE FOLDER NAME CORRESPONDING TO HEADER INFORMATION WHICH MATCHES HEADER INFORMATION INCLUDED IN CONTENT FROM STORAGE REFERENCE TABLE
S206
ACCESS UNIT WRITES ACQUIRED CONTENT TO FOLDER IN RECORDING MEDIUM SHOWN BY ACQUIRED STORAGE FOLDER NAME
END